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SUBSTITUTE PAGES

From WO 03/025713 A a method is known in which a printed document is scanned in with the aid of a scanner and digitized into image data. The digitized image data are individually analyzed per document and per page by operating
5 personnel. Attributes (for example text or image) are then associated with various regions of the recorded document (such as, for example, images or text present there) by operating personnel.

A device for modification of a document is known from the document EP-A-1 133
10 159, in which rectangular regions with which property parameters are already associated are automatically extracted in a document. An operating personnel can establish and associate the type of the modification of the selected rectangular regions. This type of the modification that is associated with a rectangular region is stored associated with the region. The data of the region are processed
15 dependent on the associated type of the modification and output as a modified image.

A printer controller as well as a method for controlling a printer is [sic] known from the document JP 10 105348 A, in which attributes are associated per page
20 with the objects to be printed. These attributes pertain to the resolution of the page to be printed. The processing resolution in the processing of the corresponding page is changed dependent on a resolution associated with a page.

From the document JP 11 196285 A it is known to establish the conditions for
25 processing in a simple manner, in that images with different color processing conditions are output in parallel in order to enable a simple selection possibility of the color processing conditions for the user.

From the document US 2002/057443 A1 it is known to add attribute information to
30 print data that are transferred from a printer driver to a printer on the basis of color information of the colors C, M, Y, K. The printer driver establishes a

corresponding value dependent on the color information and sends the print data to the printer. The printer prints print images corresponding to the print data dependent on the transmitted attribute.

- 5 It is the object of the invention to specify a method and a system for processing of print data of at least one print page, via which method and system print data with which high-quality print images can be generated are provided in a simple manner.

The object is achieved via a method with the features of the patent claim 1.

- 10 Advantageous developments of the invention are specified in the dependent patent claims.

- 15 Via an inventive method for processing of print data of at least one print page, it is possible to execute different predetermined image processing processes within one page for the part of the region and the remaining region. For example, it can be provided to select a predetermined rastering and/or a predetermined color conversion within specific regions of a page with the aid of the object properties. An optimal processing of the document data, i.e. the print data contained in the print data stream for generation of at least one print page, is thereby also
- 20 implemented when no individualizing object properties with which an automatic selection of image processing processes is possible are assigned to the individual objects contained in the print data stream. An optimal image processing of the transferred print data is thus also possible when the per-object associations of object properties have been lost or, respectively, have been intentionally removed
- 25 in the transfer from the originator up to the delivery to the print center. However, a differentiation capability that is enabled by the method according to claim 1 is necessary for an optimized further processing of the appertaining objects.

- 30 A second aspect of the invention concerns a system for processing of print data of at least one print page. A print data stream with print data of one print page is generated with the aid of a first data processing unit, whereby first object

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properties are associated with at least one region of this print page. A second data processing unit processes the print data, whereby at least one part of the region can be selected. At least one second object property varying from the first object

SUBSTITUTE PAGES

Claims

1. Method for processing of print data of at least one print page,
 - 5 in which a print data stream with print data of a plurality of print pages (24) is generated, whereby first object properties (P1 through P5) are associated with at least one region (24) of these print pages,

the print data are processed, whereby at least one part (26) of the region
10 (24) of a print page (24) of the print data stream is selected,

at least one second object property (P1 through P5) differing from the first object properties is associated with this selected part (26) of the region (24) on each print page (24) of the print data stream,
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and in which the print data of each print page (24) which pertain to the selected part (26) of the region (24) are processed further dependent on the second object property (P1 through P5).
- 20 2. Method according to claim 1, characterized in that a second print data stream is generated in which the second object property (P1 through P5) is associated with the part (26) of the region (24) of each print page (24).
- 25 3. Method according to claim 2, characterized in that the second print data stream is supplied to a printer (16, 40) which processes the selected part of the region of each print page (24) dependent on the second object property (P1 through P5) or dependent on the second object property (P1 through P5) and at least one part of the first object property, and which processes the remaining region dependent on at least one part of the first object
30 property.

4. Method according to any of the preceding claims, characterized in that the region (24) comprises the entire print page.
5. Method according to any of the preceding claims, characterized in that the first and/or second object property pertains to at least one output, print and/or processing parameter.
6. Method according to any of the preceding claims, characterized in that at least one object property serves for selection of a color conversion method, a raster conversion method or an error correction method.
7. Method according to claim 6, characterized in that the raster method is a Floyd-Steinberg raster method, a Burkes raster method or a Stucki raster method.
8. Method according to any of the preceding claims, characterized in that an real region of the region is selected given the selection of the part (26) of the region (24).
9. Method according to claim 8, characterized in that the areal region is selected with the aid of simple geometric figures, in particular with the aid of rectangles, circles or polygons.
10. Method according to any of the preceding claims, characterized in that an adaptation of the resolution of the print data contained in the print data stream to the resolution of the printer (16, 40) and/or an adaptation of the color and/or grey level values contained in the print data stream to the device properties of the printer (16, 40) occurs in the print preparation.
11. System for processing of print data of at least one print page,

in which a print data stream with print data of a plurality of print pages (24) is generated with the aid of a first data processing unit (12), whereby at least one first object property is associated with at least one region (24) of these print pages,

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[sic] a second data processing unit (14) that processes the print data, whereby at least one part (26) of the region (24) of a print page (24) of the print data stream can be selected,

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at least one second object property (P1 through P5) differing from the first object property can be associated with this selectable part (26) of the region (24) on each print page (24) of the print data stream,

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and in which the second data processing unit (14) further processes the print data of each print page that pertain to the selected part (26) of the region (24) dependent on the second object property (P1 through P5).

12. System for processing of print data of at least print page,

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in which a print data stream with print data of a plurality of print pages (24) is generated with the aid of a first data processing unit (12), whereby at least one first object property is associated with at least one region (24) of these print pages,

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[sic] a second data processing unit (14) that processes the print data, whereby at least one part (26) of the region (24) of a print page (24) of the print data stream can be selected,

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at least one second object property (P1 through P5) differing from the first object property can be associated with this selectable part (26) of the region (24) on each print page (24) of the print data stream,

and in which a printer (16, 40) further processes the print data of each print page (24) that pertain to the selected part (26) of the region (24), dependent on at least the second object property (P1 through P5).

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13. System according to claim 12, characterized in that the second data processing unit (14) is arranged in the printer (16, 40).

14. Method for processing of print data of at least one print page,

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in which a print data stream with print data of a print page (24) is generated, whereby first object properties are associated with at least one region (24) of this print page,

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the print data are processed, whereby image data of the region (24) are determined with which a preset graphic format is associated,

and in which the image data are processed further dependent on the preset graphic format.

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15. Method according to claim 14, characterized in that at least one second object property (P1 through P5) differing from the first object properties is associated with the image data dependent on the associated graphic format.

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16. Method according to claim 15, characterized in that a second print data stream is generated in which the second object property (P1 through P5) is associated with the image data of the region (24).

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17. Method according to claim 16, characterized in that the second print data stream is supplied to a printer (16, 40) which processes the image data of the region dependent on the second object property (P1 through P5) or

dependent on the second object property (P1 through P5) and at least one part of the first object property, and which processes the remaining region dependent on at least one part of the first object property.

- 5 18. Method according to any of the preceding claims, characterized in that the region (24) comprises the entire print page.
19. Method according to any of the preceding claims, characterized in that the first and/or second object property pertains to at least one output, print
10 and/or processing parameter.
20. Method according to any of the preceding claims, characterized in that at least one object property serves for selection of a color conversion method, a raster conversion method or an error correction method.
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21. Method according to claim 20, characterized in that the raster method is a Floyd-Steinberg raster method, a Burkes raster method or a Stucki raster method.
- 20 22. Method according to any of the preceding claims, characterized in that an adaptation of the resolution of the print data contained in the print data stream to the resolution of the printer (16, 40) and/or an adaptation of the color and/or grey level values contained in the print data stream to the device properties of the printer (16, 40) occurs in the print preparation.
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23. Method according to any of the preceding claims, characterized in that the region contains a plurality of data groups with which a graphic format is respectively associated, whereby the image data of the respective image data group are respectively further dependent on the associated graphic
30 format.

24. System for processing of print data of at least one print page,

in which a print data stream with print data of a print page (24) is generated
with the aid of a first data processing unit (12), whereby at least one first
5 object property is associated with at least one region (24) of this print page,

[sic] a second data processing unit (14) that processes the print data,
whereby the data processing unit (14) determines image data of objects of
the region (24) to which a preset graphic format is assigned,

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and in which the second data processing unit (14) further processes the
image data dependent on the preset graphic format.

25. System according to claim 24, characterized in that the second data

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processing unit (14) is arranged in a printer (16, 40) that generates the print
image of the region.